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Psychological Determinants of Retirement Preparation Among the Informal Sector Workers in Ghana: A Moderating Effect of Age and Educational Level

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Abstract

The issue of life in old age has become a globally discussed topic because of the changes in the world`s population demographics and the challenges such changes have placed on individual households as well as governments all over the world. There are several challenges associated with life in old age. At this stage of life, the income of the individual usually reduces as a result of his or her withdrawal from active work, he or she feels lonely, and in addition, increases in expenditure as a result of deteriorated health conditions which will require more financial commitment to manage the health conditions. People at this stage of life most times become dependent on their children and family members who may not be adequately financially resourced because of their already existing responsibilities. This study aims to explore the psychological determinants of retirement preparation among the informal sector workers in Ghana. Using a cross-sectional approach, the study collected data from the informal sector workers in the Kumasi Metropolis of the Ashanti Region of Ghana. The region was chosen for the study because it is the most populous region in the country with more than 83% of the people in the informal sector. The Kumasi metropolis is centrally located in the Ashanti Region of Ghana. It is the second largest city in Ghana and the administrative capital of the Ashanti Region. This study used a quantitative research design, using a well-structured questionnaire to collect data from 550 respondents through purposive and convenience sampling techniques, and using structural equation modeling for the data analysis. The study revealed a significant positive relationship between future time perspective and retirement preparation. The study also revealed a significant positive relationship between attitude towards retirement and retirement preparation. However, there was no significant relationship between retirement goal clarity and retirement preparation. In testing the moderating role of age, the findings of the study indicated that while age significantly moderates the relationship between retirement goal clarity and retirement preparation; it does not moderate the effect of future time preparation on retirement preparation. It is recommended that government policy on adult education should cover the syllabus on the need for preparing for retirement as it will help the workers in the informal sector to take the necessary steps to prepare adequately for retirement.

Keywords: *Retirement Preparation; Informal Sector Workers; Retirement Goal Clarity; Attitude Towards Retirement; Future Time Perspective*

Introduction

The age mix of countries around the world is changing with the aging population increasing at a faster rate. The World Health Organization states that a rise in the proportion of elderly individuals is a sign of population aging because of higher life expectancies and lower fertility rates (World Health Organization, 2020). According to the organization, since the year 2000, life expectancy has improved by around 6 years in low- and lower-middle-income nations and by 4 years in upper-middle- and high-income countries in the Asia-Pacific region and suggested that the region's rate of aging will be unparalleled worldwide. Both the developed and the developing countries have reported a shift in their population demographics. A country like Japan has one-third of its population being 60 years and older (Sasai *et al.*, 2019). In the United States, it is reported that the population of Americans 65 years of age and over is rising quickly and is predicted to double to around 72 million over the course of the next 25 years (Miner and Kryger, 2020). The situation in Africa is not different as it is projected that the aging population of Africa will grow at a dramatic rate in the next 20 years. In sub-Saharan Africa, the number of adults over 60 will almost double from over 34 million in 2005 to over 67 million in 2030 (He *et al.*, 2020). The statistics in Ghana show that the aging population is growing at an increasing rate (Scott *et al.*, 2020) and this growth has continued over the past three decades.

This changing global demographics has policy implications as more people are expected to enter retirement age than before and governments would have to increase their budget allocations towards the aged population (Sheiner, 2021). The population's increasing aging will put pressure on government expenditures overall, as well as on public pensions and healthcare systems (Lukyanets *et al.*, 2021) as the people in this population bracket mostly depend on the government and their families for survival. This type of population is characterized by a high dependency rate, low-income levels, and deteriorated health conditions. Available literature suggests that government support for the aged population has been inadequate as other government businesses take junk of the government budget (Kuznets, 2019; Stone, 2020; Hitlin and Shutava, 2022). Most governments have introduced various policy reforms to get people individually involved in preparing for retirement. Individuals are expected to take greater responsibility for their financial security as they age (Niu *et al.*, 2020). The advocacy for workers to shift from the defined benefit pension scheme to the defined contribution pension scheme indicates that the government's sole continuous support for the aged population is not guaranteed and not sustainable and therefore the need for people to individually prepare adequately for retirement before they transitioned.

In terms of individual pre-retirement preparation and life satisfaction in retirement, several studies have established that people who prepare and plan for retirement are likely to be satisfied when they retire (Amorim and de Freitas Pinho França, 2022; KIM, 2020; Topa and Valero, 2017; Principi *et al.*, 2020). On the other hand, people who retire unprepared are dissatisfied with life in old age (Agyeman, 2021; Pascale *et al.*, 2012; Záhorcová, *et al.*, 2021). With this foreknowledge, it is expected that people will take the necessary measures to prepare for retirement to secure their lives in old age. However, the situation is different across the globe. There is enough evidence from existing literature that suggests most people do not prepare before transitioning to retirement. For instance, a study by Adams and Rau (2011) suggests that most people nearing their retirement look not adequately prepared for their lives in retirement. Another study by Krijnen *et al.*, (2022) in Australia revealed that most people start preparing for their retirement late and are therefore unable to secure their lives in old age. Such situations make life unbearable for the retirees and put pressure on their families to support and care for them.

The most vulnerable group in retirement without preparation is the informal sector workers. For instance, In Ghana, the workers in the informal sector are the most affected and suffer in old age because most of them fail to prepare adequately for life in old age (Osei-Boateng and Ampratwum, 2011). This is because, unlike the formal sector workers who save a percentage of their monthly salary mandatorily through the employer-employee pension scheme, the informal sector workers are not under any obligation

to pay part of their monthly incomes into any such pension funds. The National Pension Act, 2008, Act 766 was established by law to enroll the informal sector workers into the national pension scheme, which is already available to the formal sector workers. This act aims to provide financial security to the informal sector workers in their old age when they are no longer active in work. The Pension schemes available to the informal sector workers in Ghana are voluntary and therefore it is those who value the need to prepare for old age are the ones who subscribe to these voluntary pension schemes (Boyetey *et al.*, 2021).

Over the past decades, there have been several studies on the determinants of retirement preparation and planning. Some have explored financial literacy and retirement planning (Antoni *et al.*, 2020; Boisclair *et al.*, 2017; Lusardi and Mitchell, 2011; Setyawan Hutabarat and Wijaya, 2020), demographic factors and retirement planning (Afthanorhan *et al.*, 2020; Fan *et al.*, 2022; Petkoska and Earl, 2009) and psychological factors and retirement planning (Jais and Asokumar,2020; Tomar *et al.*,2021; Wang and Shi, 2014). However, most of these studies on retirement planning and preparation have been done in developed countries and have focused on the formal sector; leaving much to be desired in the developing countries and the informal sector. Moreover, most of these studies have also used only financial planning or savings behavior to measure retirement planning and retirement preparation; meanwhile, studies have established that retirement planning activities are multifaceted and go beyond financial planning and savings behavior.

The current study contributes empirically to the discussion by assessing the psychological determinants of retirement preparation among the informal sector workers in Ghana; using a multifaceted measure for retirement preparation. The study explores the relationship between Retirement Goal Clarity, Future Time Perspective, and attitude toward retirement and retirement preparation. The study further tests the moderating role of educational level and age in the relationship between the various psychological variables and Retirement Preparation. The remaining sections of the study are arranged as follows:

We build the hypotheses after first providing a theoretical foundation. The study methodology, data analysis, and outcomes are then presented. We then share our key results and recommendations.

2. Literature Review

2.1 Theoretical Framework

Several theories have been used to explain the concept of human behavior. Among such theories is the Theory of Planned Behavior (TPB) proposed by Ajzen (1991). The TPB is one of the most widely used theoretical frameworks for forecasting and understanding behavioral patterns in people. It evolved from the earlier theory of reasoned action (Fishbein *et al*., 2001). The purpose of the TPB is to predict and understand consumer behavior. From the Theory of Planned Behavior, Ajzen (1991) posits that attitudes toward the behavior, subjective norms, and perceptions of behavioral control can all be used to predict intentions to perform a variety of behaviors and that these intentions and perceptions of behavioral control account for a significant amount of variation in actual behavior. According to the Theory, three different types of beliefs—behavioral, normative, and control—direct human behavior. An individual's attitude toward an action is determined by their behavioral belief, or what they believe will happen as a result of their activity. A subjective norm is created by normative belief, which is defined as a person's expectation of how others would see a particular conduct. Control belief, which is linked to perceived behavioral control, describes a person's beliefs about his or her ability to influence behavior (Ajzen, 1991). This notion of control is connected to elements that may help or hinder the performance of the activity and whether the person thinks the behavior is simple or complex to accomplish (Ajzen, 1991). The immediate antecedent in the TPB is the intention to carry out the desired action, and the stronger the intention, the

more likely it is that the behavior will follow (Ajzen, 2020). Stated differently, Kan and Fabrigar, (2017) argue that if people have good attitudes about the activities, think that subjective norms support the actions, and think they can conduct the behaviors appropriately, they are far more likely to want to engage in healthy behaviors. On the relevance of the TPB, Kan and Fabrigar, (2017) again observed that the TPB supports program implementers in creating interventions that successfully target a particular behavior. Since it is relatively simple and predicts consumer intention and behavior well, the TPB has received considerable attention and has been widely and successfully applied in consumer research. This theory has been used to explain and predict behavior in a variety of behavioral contexts, including consumer behavior, recycling, safer sex, drug use, technology adoption, and privacy protection, to name a few (Ajzen, 2020). Like other human behaviors, the TPB is an appropriate theory for studying determinants of retirement preparation behavior. The current study adopts the TPB theory to explore the psychological determinants of retirement preparation among the informal sector workers in Ghana.

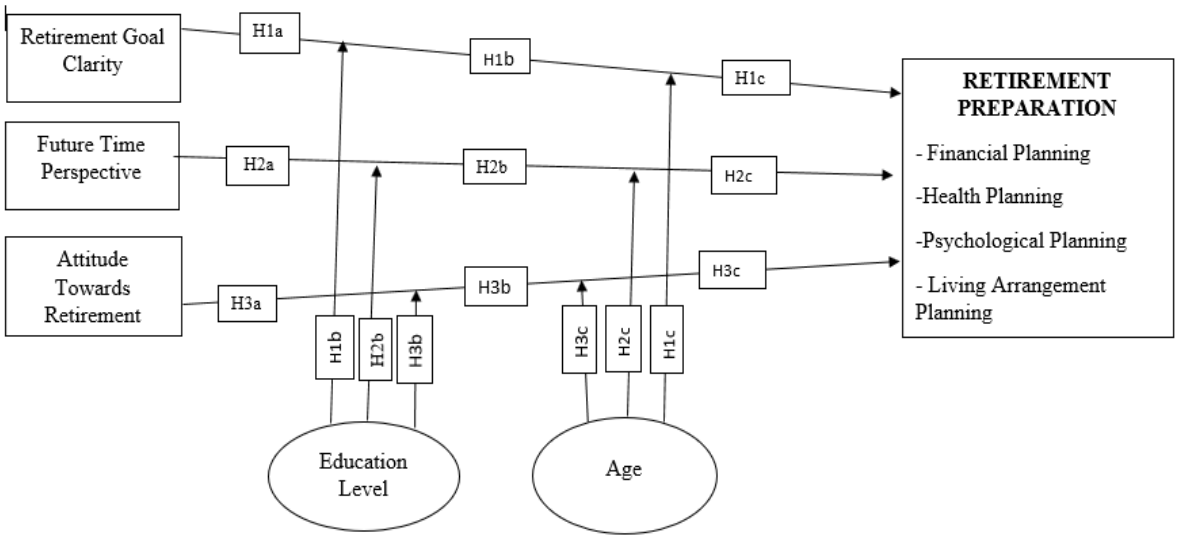

Figure 1: Conceptual Framework of psychological determinants of retirement preparation

2.2 Retirement Goal Clarity and Retirement Preparation

According to Karp *et al*., (2014), a person's ultimate purpose is to achieve their goals, which focus their attention, direction, and behavior by mobilizing their efforts, developing effective tactics, and boosting their tenacity and persistence. A behavior that is goal-oriented influences planning activities including pre-retirement planning (Noone *et al*., 2009). Martela and Steger, (2016) also posit that a person's goal provides him or her with a strong sense of direction, coherence, and purpose. They also said that in an ideal situation, goals would be explicit enough to indicate if certain objectives had been attained. This made the authors conclude that people with clear life goals will demonstrate greater levels of personal achievement and life satisfaction. Arguably, having clear goals helps to set targets and provide useful criticism and feedback. A goal clarity of a person does not only provide a standard or a scale for measuring attainments, but it also provides a roadmap to help establish future plans and influences purposeful behavior (Kiresuk *et al*., 2014). The Task Goal Theory by Locke and Latham, (1990) posit those well-defined goals drive performance. This indicate that an action directed by a goal produces desired results compared to an action without a goal. Goals aid in shaping how people view their retirement experience, they enable people to anticipate their future resource demands, and, as was already said, they aid in boosting both actual savings levels and saving intention (Knoll, 2010). In the context of retirement preparation, goal clarity makes a strong case for the achievement of a task that has been supported in planning literature. Hershey, Jacobs-Lawson & Neukam (2002) argued that 'clear goals for

retirement is a critical determinant of life satisfaction and adjustment during the post-employment transition period'p163. Several studies have established the fact that well-defined and clear goals are paramount as it leads an individual to be involved in planning activities, which further promotes a savings behavior. For instance, a study by Tomar *et al* (2021) in exploring the psychological determinant of retirement financial planning behavior of women in India tested the relationship between retirement goal clarity and retirement financial planning behavior using a sample of 485 professional women. The study revealed a positive relationship between retirement goal clarity and retirement financial planning behavior among the Indian women. Another study by Zhu and Chou (2018) investigated the relationship between retirement savings needs estimation and the amount of self-reported private retirement savings of adults in Hong Kong. This study also tested the relationship between goal clarity and the amount of private retirement savings. The study found a positive significant relationship between goal clarity and the amount of private retirement savings of Hong Kong adults. Hershey *et al.*, (2010) also explored the social, economic and psychological forces that impact financial planning for retirement for 419 Americans and 556 Dutch working adults between the ages of 25 and 64 years. Using a path analysis model to test the relationships, the study revealed a positive association between retirement goal clarity and financial planning for retirement. Based on this extant literature, this study hypothesizes that

Hypothesis 1: (H1) Retirement Goal Clarity has a positive significant relationship with Retirement Preparation.

2.3 Future Time Perspective and Retirement Preparation

To be happy, motivated, and behave appropriately, one must be able to envision, anticipate, and plan for future desired outcomes (Kooij *et al*., 2018) as all human activity is surrounded by and rooted in time. (McGrath and Kelly, 1992). Future Time Perspective (FTP) as a psychological variable has gained much attention in the financial planning literature. FTP measures the extent to which an individual focuses on the future instead of the present or the past (Jacobs-Lawson and Hershey, 2005). Individuals with a high level of FTP can easily see what the future holds for their lives (Tomar *et al*., 2021) and plan for it. The impacts of time on people's behaviors are, in fact, the central idea of the theory of time perspective. According to TP theory, cognitive processes influenced by temporal biases determine how we see the environment and how we interact with it (Keough *et al*., 1999). Further, every individual has a unique combination of time orientations, with one of the perspectives often dominating more than the others do. Researchers in the social–cognitive and goal-based theories have suggested that an individual`s projected future fundamentally determines the actions of that individual (Miguel Carmo *et al*., 2014). Berg (2015) for instance posits that having a feeling of purpose for the future plays a significant role in inspiring people to take part in activities they believe will help them achieve key goals in the future. A study by Vansteenkiste *et al* (2004) examined the motivational role of the future on the academic and non-academic performance of students and found that students who have their future in mind had positive behavior toward learning and hence hard higher performance. Future time perspective, according to Rabinovich *et al*., (2010), may affect behaviors by causing a person to develop more salient attitudes toward a certain behavior or by making attitudes more stable because they anticipate having more time for that activity. Empirically, several studies have tested the relationship between FTP and retirement planning and the findings has been inconclusive. For instance, Fisher and Montalto (2010) found that persons with longer planning horizons anticipate receiving higher income from personal savings in retirement. Another study by Mooney, *et al*., (2021) examined the effect of FTP on promoting planning for retirement resources among 109 US retirees. The results revealed a significant positive relationship between FTP and promoting planning retirement resources. Another study by Kimiyagahlam *et al*., (2019) explored the behavioral factors that affect retirement planning behaviors of adults in Malaysia and the study revealed that FTP has a positive association with retirement planning behavior. However, a study by Petkoska and Earl, (2009) that examined the influence of demographic and psychological variables on financial, health, interpersonal and work planning for retirement of 50 years and above

employees in Australia found no significant relationship between FTP and the domains used to measure retirement planning. Based on findings of the previous studies, this study hypothesizes that

Hypothesis 2 (H2): Future Time Perspective has a positive significant relationship with Retirement Preparation.

2.4 Attitude Towards Retirement and Retirement Preparation

An individual`s attitude is the perspective, perception or outlook of the person toward other people, an idea, a thing or a situation. Lennartsson and Lundberg (2006) defines attitude in the context of retirement as an individual's favorable or unfavorable feeling toward their retirement life. Thus, when compared to people who are less prepared for retirement, those who are more prepared tend to have a more favorable attitude regarding retirement. (Hardy, 2006; Heron, 2010; Van Dam *et al* 2009). Based on the Planned Behavior Theory, Ajzen (1985) argues that a person`s positive perception of a behavior has a high tendency to influence him or her in following such behavior. Based on this concept, most studies have established a positive relationship between a person`s attitude toward retirement and retirement preparation (Krüger *et al*., 2020; Noone *et al*., 2010; Topa *et al*., 2009; Reitzes and Mutran, 2004). A person's attitude regarding retirement affects their choice to retire, their retirement preparation, and their transition to retirement (Lim, 2003; Lundberg, 2006). A study by Atchley (1990) revealed that working individuals aged over 45 years old tend to have positive attitudes towards retirement regardless of gender. However, Atchley and Robinson (2010) and Riley and Foner (2007) indicate pre-retirees who are closer to retirement feel less prepared and have a more negative attitude toward retirement than those who are older and farther away from retirement. In addition, Kim *et al*., (2005) revealed that an individual with a positive ATR is more likely to feel ready for retirement and to retire with little fear or stress. Mutran *et al*., (1997) had a 12-year longitudinal study; assessing factors that shaped ATR, and found that participants had a higher likelihood of engaging in retirement planning if their ATR was positive. A few studies, however, refute these conclusions and show that individuals frequently do not act by their attitudes, particularly when it comes to future-focused actions like retirement preparation. Despite their best efforts, people's preferences and decisions sometimes diverge from their initial attitudes (Eastwick *et al*., 2019). Based on the existing literature above, this study hypothesizes that

Hypothesis 3 (H3). Attitude towards Retirement has a positive significant relationship with Retirement Preparation.

2.5 Psychological factors and the moderating role of Educational Level on Retirement Preparation

People pay huge sums of money to be educated because there is a general perception that education influences and impacts the life of people. Visser *et al*., (2021) posit that people who are educated do things differently and better than people who are uneducated. Several studies have also been done to explore the effect of people`s education level on their decisions and behaviors'. Education may play a crucial role by arming customers with the information necessary to make informed decisions when selecting from the wide range of financial products and services. Baihaqqy and Sari (2020) conducted a study to explore the relationship between investors educational level and their investment decision in the capital market. The study revealed that the level of education of the investors influenced their investment decisions positively. Another study by Jha and Gupta (2021) exploring the relationship between farmers education level and their perception about adaptation to new methods, the result of the study revealed that the educational level of the farmers impacted their perception on adaption to new ways of doing things. The extant literature reveals the impactful nature of one's education level. Several studies have also used education level as a moderator to test various relationships. The study of İlhan Ertuna and Gurel, (2011) tested the moderating role of higher education on entrepreneurship. The study found that students with higher educational level have a higher intention of becoming entrepreneurs. Another study by Abu-

Shanab (2011) explored the moderating role of education level on technology adoption. The study revealed that education level significantly moderated technology adoption. In the area of retirement planning, various studies have tested the impact of one`s educational level on retirement planning. For instance, Ali and Frank (2019) studied retirement planning decision by examining the individual's choice between defined benefits and defined contribution plans of 4000 employees of Florida International University and the study found education level to be the major determinant of such decisions, concluding that people who are most educated choose defined contribution plan as people who are less educated settle for defined benefit plans. In another study by Mansor *et al*., (2015), the researchers examined the demographic factors associated with retirement planning among workers in the Malaysian Health Sector, the study revealed a significant positive relationship between educational level and retirement planning. Most of the previous have tested the direct relationship between education level and retirement planning which has mostly been positive but little is known on the moderation role of education level on an existing retirement planning relationship. It is on this premise that this study tests the moderation role of educational level on the relationship between psychological factors and retirement preparation. The study therefore hypothesizes that

Hypothesis 4 (4) Education level moderates the relationship between Retirement Goal Clarity and Retirement Preparation.

Hypothesis 5 (5) Education level moderates the relationship between Future Time Perspective and Retirement Preparation.

Hypothesis 6 (6) Education level moderates the relationship between Attitude towards Retirement and Retire Preparation.

2.6 Psychological factors and the moderating role of Age on Retirement Preparation

Age as factor plays a key important role when it comes to issues relating to retirement. This is because the whole concept of retirement revolves around age and that the older a person gets, the closer the person get to retirement (Atalay *et al*., 2019). Age can provide pre-retirees and other people with guidance throughout the planning phase (DeVaney, 1995), modify people's attitudes and perspectives on retirement, as well as assist retirees and individuals feel more confident about their retirement (Joo and Pauwels, 2002). Age has been one of the major demographic factors' researchers have tested it impact on various variables including retirement planning. For instance, a study by Githui and Ngare (2014) examined the relationship between financial literacy and retirement planning of the informal sector workers in Kenya, and the study revealed that age has a significant positive relationship with retirement planning; indicating the older the person gets the likelihood of the person preparing for retirement. In addition, a cross-sectional study by Krishna Moorthy *et al*., (2012) of 300 working individuals in Malaysia between the age of 26 and 55 revealed that different age groups have different viewpoints on retirement planning behavior. The studied revealed that people get to think and plan for retirement as they grow. Moreover, an early study by Fillenbaum, (1971) sought to examine the age at which people engage in retirement planning programs in America and the results indicated that as people grow; they tend to show interest in retirement planning programs. However, a study by Ali, and Frank (2019) that explored retirement planning decisions by individuals found no significant relationship between age and financial planning. The previous literature on age and retirement planning indicates the significant role age plays in retirement planning. It is on this premise that the current study tests the moderation role of age in the relationship between psychological factors and retirement preparation among the informal sector workers in Ghana. The study therefore hypothesis that

Hypothesis 7 (H7) Age moderates the relationship between Retirement Goal Clarity and Retirement Preparation.

Hypothesis 8 (H8) Age the relationship between Future Time Perspective and Retirement Preparation.

Hypothesis 9 (H9) Age moderate the relationship between Attitude towards Retirement and Retirement Preparation.

3 Method

3.1 Data Collection

Various strategies are available for gathering data depending on how the study topic is described. Data was gathered using a survey that included self-administered questionnaires. The study used a closed-ended questionnaire to collect the data from the respondents. Thirty (30) questionnaires from the respondents were piloted to increase the validity and reliability of the data.

Our study focused on the psychological determinants of retirement preparation and the interaction effects of educational level and age of the informal sector workers and psychological factors on their retirement preparation. In our study contest, `informal sector workers` are self-employed workers who run independent businesses and render services to others. These workers are mostly self-paying individuals without any social security contributions. The target population was all the informal sector workers within the Kumasi Metropolis. The researchers used the Kumasi Metropolis because the Kumasi metropolis is centrally located in the Ashanti Region of Ghana and it is the second largest city in Ghana and the administrative capital of the Ashanti Region. The researchers used purposive and convenient sampling techniques to select 600 respondents for the study. The purposive sampling technique was employed to identify respondents who met the inclusion criteria whiles convenience sampling was also used to ensure that only participants who were available and accepted to participate in the study were sampled to take part. The questionnaire was distributed in both hard copies and soft copies to targeted respondents. Participants who agreed to take part in the study were given the highest assurance of confidentiality for the information being provided. In other words, the number of respondents who were ready to answer the questionnaires were 580. However, out of the 580, the researcher received 565 answered questionnaires. The researcher discarded 15 of the questionnaires with responses because they were incomplete. 550 respondents were able to respond to the questionnaires correctly and completely which the researcher used for this study. Which mean that about 94.83% of the respondents responded to the questionnaires. This exceeds the response rate allowed limit to guarantee the validity of the data (Krafft *et al.*, 2020).

3.2 Measures

3.2.1 Dependent Variable

The dependent variable (Retirement Preparation) was assessed through the combination of four measures – financial planning, health planning, psychological planning, and living arrangement planning. The study adapted from Lee and Law (2004) five-item scale to measure financial planning, a five-item scale to measure health planning, a three-item scale to measure living arrangement planning, and a five-item scale to measure psychological planning. The respondents answered all the items on a five-point Likert scale (1 = strongly disagree to 5= strongly agree). An exploratory factor analysis was conducted on all eighteen items, all items loaded on a single factor indicating that respondents recognize financial planning, health planning, living arrangement planning, and psychological planning as the measure for retirement preparation. In checking reliability, the items have a Cronbach alpha value of 0.83, indicating very good reliability.

3.3.2 Independent Variable

The study used retirement goal clarity, future time perspective and attitude toward retirement as the independent variables. The five-item scale measure of retirement goal clarity was adapted from Stawski *et al*., (2007) and had a Cronbach alpha value of 0.885. The four-item scale measure of future time perspective was adapted from Koposko (2014) and also had a Cronbach alpha of 0.865. Similarly, the four-item scale used to measure attitude towards retirement was also adapted from Moorthy *et al*., (2012), with a Cronbach alpha value of 0.7087.

4. Results

4.1 Sample characteristics

Table 1 presents the demographic profile of the respondents used for the study, which comprises gender, age, education, occupation and income level. On the gender of respondents, 306 of the respondents representing 55.6 percent were male whiles 244 of the respondents' representing 44.4 percent were females. This indicates the sample distribution fairly represented both gender in the study. On the age of respondents, 63 of the respondents representing 11.5 percent were between the ages of 18-25 years, 145 of the respondents, representing 26.4 percent were between the ages of 26-30 percent, 195 of the respondents, representing 35.5 percent were between the ages of 31-40 years. 103 of the respondents representing 18.7 percent were also between the ages 41-50 years. Respondents that were between the ages of 51-60 years were 27 percent representing 4.9 percent and those above 60 years were 17 representing 3.1 percent. This gives an indication that people of all ages were used for the study. Nonetheless, the majority of respondents were in the working age and not yet retired. These group dynamics is important to extract relevant information on pre- and post-retirement planning attitude and processing.

On the education level of respondents, majority of the respondents (225, representing 40.9 percent) had no formal education. This was followed by respondents who had attained certificates (138, representing 25 percent). Respondents that had other educational qualification were 67 representing 12.2 percent. Few of the respondents (13, representing 2.4 percent) had attained master's degree. This supports the literature that most workers in the informal sector have no and lower education levels. On the occupation of respondents', most of the respondents 269 (48.9 percent) were service/Sales workers, followed by 240 (43.6 percent) who are Craft and related trade workers and then 41(7.5 percent) of the respondents were engaged in this Agriculture/Fishery works. This statistic doesn't come as a surprise since the urban informal sector work is characterized by more of service delivery and less of Agriculture/Fishery stuffs. According to the Ghana Statistical Service, (2021), In rural Ghana, the informal economy is mostly comprised of agriculture (75%), fishing and fish processing, and Agro-based processing. Contrarily, a greater percentage of urban employees (43%) are employed in non-agricultural activities. The study also took information on the average annual income of respondents. Table 5.1 again shows that 165 of the respondents, representing 30 percent earn an average income below 10,000 cedis. 222 of the total respondents representing 38.9 percent earns between 10,000 – 20,000 cedis annually on the average. 98 respondents representing 17.8 percent earns between 20,001 – 30,000 cedis annually on the average. Respondents who earn between 30,001 – 40,000 cedis annually on the average were 42 representing 17.8 percent. In addition, 20 out of the total respondents earn between 40,001 – 50,000 cedis representing 3.6 percent whiles 3 respondents representing 0.5 percent earn above 50,000 cedis annually on the average.

Table 1 Demographics Profile of Respondents

Variable	Frequency	Percentage (%)
Gender		
Male	306	55.6
Female	244	44.4
Age		
18-25 years	63	11.5
26-30 years	145	26.4
31-40 years	195	35.5
41-50 years	103	18.7
51-59 years	27	4.9
60 and above	17	3.1
Education		
No formal education	225	40.9
Certificate	138	25.1
Diploma	61	11.1
Degree	46	8.4
Masters	13	2.4
Others	67	12.2
Occupation		
Agriculture/Fishery workers	41	7.5
Craft and related trade workers	240	43.6
Service /Sales workers	269	48.9
Household Income (GhȻ)		
Below 10,000	165	30.0
10,001 - 20,000	214	38.9
20,001 - 30, 000	98	17.8
30, 001- 40,000	35	6.4
40, 001 -50, 000	20	3.6
50,001 and above	3	.5

Source: Field study (2023)

4.2 Assessment of Measurement Model

The study evaluated the quality of measurement model based on the factor loadings, reliability and validity of the indicators measuring the latent constructs. The reliability and validity measuring indicators included composite Reliability (CR), Average Variance Extracted (AVE), and Cronbach's Alpha as presented in Table 2. The results show that, the factor loadings (α) of almost all the indicators estimated to measure the conducts were satisfactory and all the indicators were within the required thresholds. The reliability tests checked the internal consistency of the indicators. The factor loadings test whether the indicators could significantly measure the individual latent constructs. Hayduck and Littvay (2012) recommend that if the AVE and CR have loading less than 0.5 and 0.7 respectively, the implications are that, there is weak convergence validity and internal consistency. All constructs recording Cronbach's alpha (CA) of less than 0.7 are not considered in the PLS-SEM analysis and are therefore eliminated from the model. Results from Table 2 shows that, the CR and the Cronbach's alpha for all the constructs are above 0.7 implying that, the requirements for inclusion in the measurement model has been satisfied. The results reveal that there is stronger internal consistency in the indicators measuring the latent variable constructs. Likewise, Table 2 also shows that the AVE for all the constructs

is also above 0.5 which shows that, all the indicators considered in the measurement model are valid are actually measured the items indented to be measured.

Table 2 Factor Loadings, Construct Reliability and Validity

Construct	Items	Indicator Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Attitude Towards Retirement	ATR1	0.850	0.812	0.885	0.720
	ATR2	0.735			
	ATR3	0.801			
	ATR4	0.400			
Future Time Perspective	FTP1	0.861	0.894	0.922	0.705
	FTP2	0.856			
	FTP3	0.876			
	FTP4	0.873			
	FTP5	0.721			
Retirement Goal Clarity	RGC1	0.926	0.952	0.964	0.842
	RGC2	0.935			
	RGC3	0.937			
	RGC4	0.949			
	RGC5	0.837			
Financial Planning	RPFP1	0.554	0.765	0.840	0.517
	RPFP2	0.770			
	RPFP3	0.632			
	RPFP4	0.799			
	RPFP5	0.806			
Health Planning	RPHP1	0.680	0.815	0.871	0.576
	RPHP2	0.819			
	RPHP3	0.698			
	RPHP4	0.830			
	RPHP5	0.754			
Living Arrangement Planning	RPLAP1	0.936	0.942	0.963	0.895
	RPLAP2	0.953			
	RPLAP3	0.950			
Psychological Planning	RPPP1	0.875	0.884	0.916	0.686
	RPPP2	0.848			
	RPPP3	0.703			
	RPPP4	0.885			
	RPPP5	0.819			

Source: Field study (2023)

As shown on Table 2, attitude towards retirement was evaluated with three items which loaded significantly and ranged 0.807 – 0.850 with an AVE score of 0.720. This demonstrates strong convergent validity as none of the indicators loaded fell below the standard cut off of 0.5.

It is also reported that future time perspective and retirement goal clarity were both measured by 5 items. All the items loaded at less than 1% significant level on their respective manifest construct with loadings ranging between 0.837 – 0.937 for retirement goal clarity and 0.721 – 0.876 for future time perspective. With respect to the dependent variable, retirement preparation, the analysis indicate that the first order construct measurement described four dimensions of evaluating retirement preparation in terms of financial planning, health planning, living arrangement planning and psychological planning. Aside living arrangement planning which was evaluated with three items, all the other dimensions of retirement preparation were evaluated by five items. The loadings ranged from as low as 0.554 in financial planning to as high as 0.953 in living arrangement planning with the AVE scores also between 0.517 to 0.895.

The second order retirement preparation construct was also evaluated to assess its validity. As shown in Table 3, the second order retirement preparation model was more efficient than the first order model. Moreover, Cao and Zhang (2011) have demonstrated that if the ratio of the Chi-square of the first-order construct to that of the second-order model is above 0.8, the second-order construct should be preferred. The calculated t-coefficient is found to be 0.915, Thus, the retirement preparation was measured as a second-order construct.

Table 3 Second Order Retirement Preparation Model

Construct	Items	Indicator Loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Retirement Preparation	Financial Planning	0.751			
	Health Planning	0.791			
	Living Arrangement Planning	0.891	0.669	0.888	0.890
	Psychological Planning	0.833			

Source: Field study (2023)

4.2.1 Discriminant Validity of measurement model

The construct validity assesses the degree to which a particular measurement item actually connects to what is intended to be measured guided by a fundamental theory (J. Hair *et al.*, 2017; J. F. Hair *et al.*, 2019; Manley *et al.*, 2020). The latent construct validity was assessed by three robust diagnostics namely the: AVE, Fornell & Larcker Discriminant Validity Criterion and Heterotrait-Monotrait ratio (HTMT). The results from Table 5.2 show that, the AVE values of the all the constructs are above the minimum threshold of 0.5. Moreover, the results from the Fornell & Larcker Discriminant Validity Criterion presented Table 5.4 reveal that the square root of the AVE of the various constructs have a loading in the major diagonal higher than their corresponding correlations with other latent constructs of the major diagonal. This implies that the measurement model is logically valid and essentially meet the recommended construct validity requirement for further analysis of measurement model using the PLS-SEM.

Table 4 Discriminant Validity of measurement model 1(Fornell-Larcker Criterion)

Variables constructs	Attitude Towards Retirement	Future Time Perspective	Retirement Goal Clarity	Retirement Preparation
Attitude Towards Retirement	**0.718**			
Future Time Perspective	0.574	**0.841**		
Retirement Goal Clarity	0.418	0.447	**0.917**	
Retirement Preparation	0.751	0.791	0.727	**0.818**

Source: Field study (2023)

The study further evaluated the discriminant validity of the various latent constructs based on the Heterotrait-Monotrait ratio (HTMT) criterion. According to (F. Ali *et al.*, 2018; Sarstedt *et al.*, 2020) to check for the discriminant validity of the latent constructs, the cross values of HTMT must be less than 0.85 threshold. In line of this criterion, results from Table 5.5 show that, all the Heterotrait-Monotrait ratio (HTMT) are less than 0.85 hence the conditions of discriminant validity are qualified and the PLS-SEM bootstrapping of 5000 resampling can be applied.

Table 5 Heterotrait-Monotrait ratio (HTMT)

Constructs	Attitude Towards Retirement	Future Time Perspective	Retirement Goal Clarity	Retirement Preparation
Attitude Towards Retirement				
Future Time Perspective	0.607			
Retirement Goal Clarity	0.850	0.586		
Retirement Preparation	0.815	0.713	0.773	

Source: Field study (2023)

4.3 Partial Least Square Structural Equation Model Results

A PLS-SEM approach was used in this study to examine the impact of psychological factors on retirement preparation after validation of the measurement model. The role of socioeconomic factors such as educational level and age is also explored. The first strand of the analysis was also essential to test the study's hypotheses: H1, H2, H3, H4, H5, H6, H7, H8 and H9.

4.3.1 Impacts of Psychological Factors on Retirement Preparation

The study examines the direct impact of Retirement Goal Clarity, Future Time Perspective, and Attitude Toward Retirement on retirement preparation of informal sector workers in Ghana using the PLS-SEM technique.

The results show that retirement preparation is significantly and positively influenced by an individual's attitude towards retirement ($\beta = 0.606$, $p < 1\%$). This suggests that a positive attitude towards retirement strongly increases the likelihood of an individual preparing for his or her retirement. There is also evidence from the study to suggest that future time prospective have a significant positive effect on retirement preparation in the informal sector ($\beta = 0.224$, $p < 5\%$). This result is in agreement to an earlier

study by Mooney *et al.*, (2018) that posit that a balanced time perspective is characterized by a positive orientation about the future. This institutively suggest that given a positive outlook, an increased efforts are expected to achieve that future economic state and in the context of retirement planning, this translates into strongly preparing towards one's retirement. Zhu and Chou (2018) also conclude that future time perspective involves the significant practice of saving, investing, planning and so on. While this may be indicative of goal clarity and commitment; interestingly however, the findings of the study suggest that retirement goal clarity does not have any statistically significant effect on retirement preparation (β = 0.096, p > 10%). This is also in contrast to the findings of Zhu and Chou (2018) who concluded that retirement goal clarity has direct and significant effect on retirement planning activity. Notwithstanding, among younger individuals, the authors reported an insignificant correlation between goal clarity and retirement planning,

Table 6 Results from Direct Effects of Psychological factors on Retirement preparation

	Coefficients (β)	Standard Deviation	T Statistics	P Values
Age → Retirement Preparation	0.028	0.120	0.231	0.818
Attitude Towards Retirement → Retirement Preparation	0.606***	0.108	5.631	0.000
Education Level → Retirement Preparation	0.012	0.183	0.068	0.946
Future Time Perspective → Retirement Preparation	0.224**	0.091	2.462	0.015
Retirement Goal Clarity → Retirement Preparation	0.096	0.119	0.809	0.419

Note: *,** and *** denote statistical significant at P<0.10, P<0.05 and P<0.001 levels respectively

Table 7 Results from Moderation analysis of Age and Educational Level

Structural relationships	**Coefficients (β)**	**Standard Deviation**	**T Statistics**	**P Values**
Age x Attitude towards Retirement → Retirement Preparation	-0.103***	0.028	3.739	0.000
Age x Future Time Perspective → Retirement Preparation	0.017	0.028	0.616	0.539
Age x Retirement Goal Clarity → Retirement Preparation	0.074***	0.024	3.071	0.002
Education x Attitude towards Retirement → Retirement Preparation	-0.027	0.019	1.381	0.169
Education x Future Time Perspective → Retirement Preparation	0.001	0.029	0.046	0.963
Education x Retirement Goal Clarity → Retirement Preparation	0.013	0.016	0.809	0.420

Note: *,** and *** denote statistical significant at P<0.10, P<0.05 and P<0.001 levels respectively

4.3.2 The moderation effect of educational level and age on the relationship between the psychological factors and Retirement Preparation

It was also the objective of the study to explore the moderation role of age and educational level of the informal sector workers on retirement preparation. At first glance the evidence indicate that age and education level have positive but statistically not significant effect on retirement preparation (see Table 6). Nonetheless, further analysis based on the study's conceptual framework, was conducted to explore

the moderating role of age and educational level (as presented on Table 6). The results show that, age (β= -0.103, P<0.01) negatively and significantly moderate the relationship between attitude towards retirement and retirement preparation. The interactive effect of age and attitude towards retirement is negative which implies that, age dampens the positive relationship attitude towards retirement and retirement preparation. The results further indicate that, age has significant and positive moderation effect in the relationship between retirement goal clarity and retirement preparation. The interactive of age and retirement goal clarity (β= 0.074, P<0.01) is positive which implies that, age strengthens the relationships between retirement goal clarity and retirement preparation. However, the results illustrate that age does not moderate the relationship between future time perspective and retirement preparation.

Concerning the moderating role of education level, the results portray that education does not moderate the effect of attitude towards retirement and retirement preparation (β = -0.027, p > 0.10), as well as the relationship between future time perspective and retirement preparation (β = 0.001, p > 0.10). The insignificant effect of retirement goal clarity on retirement preparation was also found to be uniform irrespective of the worker's educational level (β = 0.013, p > 0.10). Figure 5.2 shows the path diagram demonstrating the relationship between the study variables.

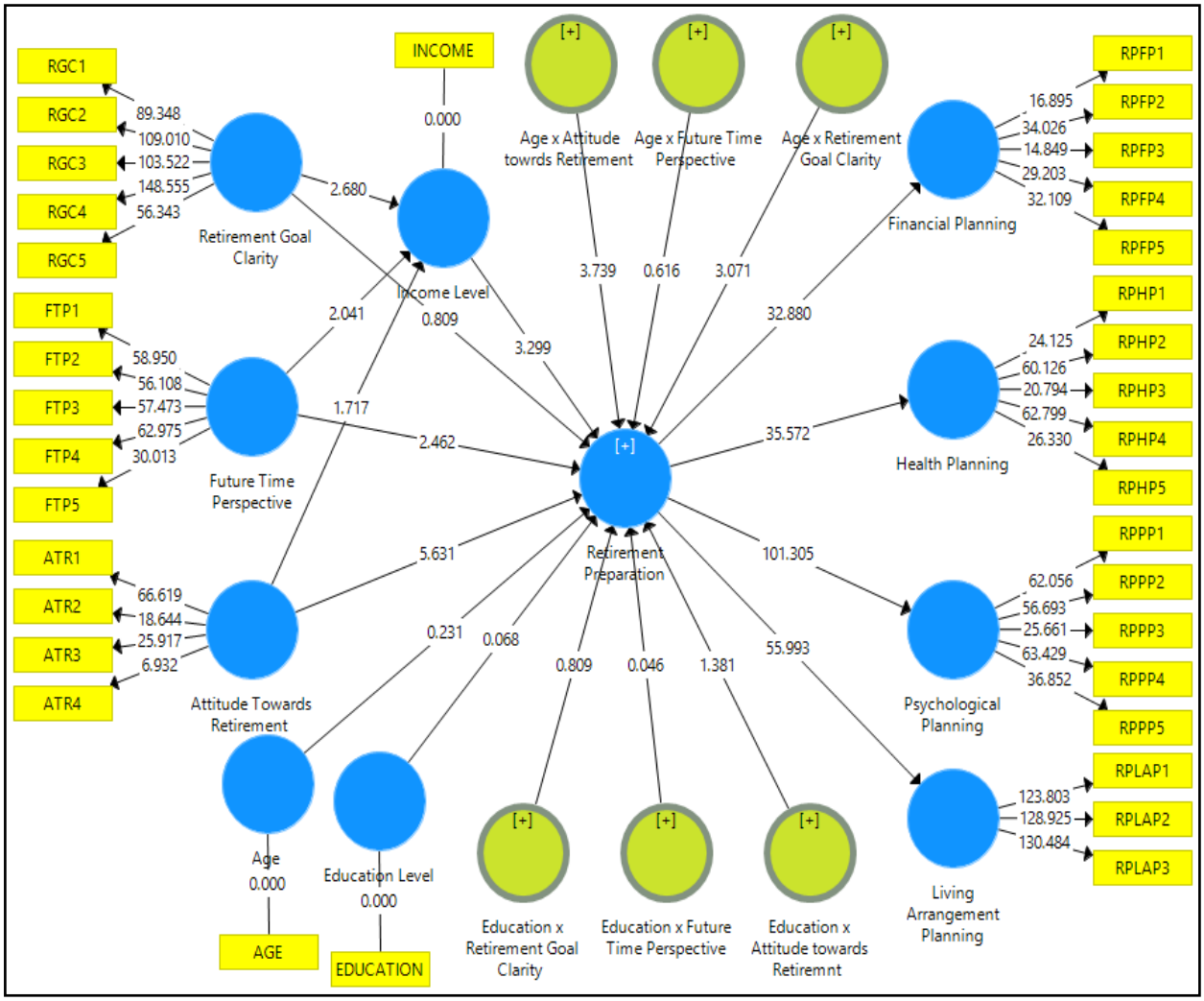

Figure 2: Path Diagram demonstrating the effect of psychological factors on retirement preparation

5. Discussion

This study is among the first to empirically examine the psychological determinants of retirement preparation among the informal sector workers in Ghana. The researchers investigated the impact of three psychological factors; Retirement Goal Clarity, Future Time Perspective and Attitude towards retirement of the informal sector workers in Ghana on their retirement preparation. The study also tested the moderation effect of educational level and age in the relationship between these psychological factors and retirement preparation.

The study revealed that Retirement Goal Clarity does not have any statistically significant effect on retirement preparation. Such finding is surprising considering that other studies have established that having a clear understanding of one's retirement goals is crucial for one's capacity to participate in intentional action, such as retirement planning (Stawski, Hershey, & Jacobs-Lawson, 2007; Zhu, & Chou, 2018). Moreover, a study by Tomar et al., (2021) involving Indian women, established that the amount of engagement of females in financial planning activities and retirement saving behavior is higher when they have clear, well-defined, and practical goals but the current study proved otherwise. The results imply that even though a worker in the informal sector may have a clear retirement goal, it doesn't make him or her prepare for retirement. In other words, a goal without an action will achieve no results. This result doesn't support the theory of goal setting by Locke & Latham, (1990). They were of the view that people who often set specific goals are more likely to achieve what they intend to achieve. The finding also goes against the idea that goal clarity boosts motivation for task completion, a notion that has been well supported in the retirement planning literature (Tomar et al., 2021). Therefore, the *hypothesis 1 (H1)* is not supported based on the results of the study.

The study also revealed that Future Time Perspective has a positive and significant relationship with Retirement Preparation. This result is consistent with the results of (Hershey & Mowen, 2000; Jacobs-Lawson and Hershey, 2005; Mowen, 2000; Tomar et al., 2021) but in contradiction with an earlier finding by Petkoska and Earl, (2009). This result confirms an earlier suggestion by Gjesme (1983) that FTP is concerned with individual variations in the general ability to foresee, illuminate, and arrange one's future. The result also supports the assumption that people are more likely to participate in behaviors that are thought to contribute to the achievement of desired future outcomes when they feel they have a feeling of purpose for the future (McInerney, 2004). The results imply that informal sector workers who think more into the future in making decisions are likely to prepare for retirement. The results therefore support *hypothesis 2 (H2)* of the study.

In addition, our study also revealed that retirement preparation is significantly and positively influenced by an individual`s attitude toward retirement. This finding is in agreement with the earlier studies by (Noone *et al*., 2010; Topa *et al*., 2009; Zeka *et al*., 2020). The result is however inconsistent with the studies of (Ainslie and Haslam, 1992; Rachlin, 1995; Tomar *et al*., 2021), and this inconsistency in results may be due to differences in the sample characteristics of those studies. As posited by Ajzen (1991) in the Theory of Planned Behavior, those who have favorable opinions of a certain action are more likely to engage in such action, this result supports the TPB theory in that workers in the informal sector in Ghana who have a positive attitude towards retirement tend to prepare for retirement. The results, therefore, support *hypothesis 3 (H3)* of the study. The findings imply that informal sector workers who have a positive attitude towards retirement are likely to prepare for retirement. Hence, these workers must be encouraged to develop a positive attitude towards retirement.

The study also explored the moderation role of educational level and age of the informal sector workers in Ghana between all three variables (Retirement Goal Clarity, Future Time Perspective, and Attitude Towards Retirement) and Retirement Preparation. The result revealed that worker's educational level does not moderate the relationship between retirement goal clarity Future Time Perspective and

Attitude Towards Retirement and retirement preparation. The results mean that the educational levels of the informal sector workers do not interact with the relationship between the three psychological variables and retirement preparation. Unexpected as the results may be; it is not surprising as the people in this group of the labor force is characterized by no and/or low educational level (Djahini-Afawoubo and Atake, 2018; Pilz *et al*., 2015), hence *Hypothesis (H4), (H5), and (H6)* of the study are not supported.

Concerning the moderation role age, the result also revealed that age interactions in the relationship between retirement goal clarity and retirement preparation is positive which implies that age strengthens the relationships between retirement goal clarity and retirement preparation. The result supports the findings of earlier studies by (Hira, Rock & Loibl, 2009; Ng et al., 2011). This implies that the older the workers get the clearer their retirement goal and the more likely they will prepare for retirement. Therefore, *hypothesis 7 (H7)* of the study is supported. This means workers in the informal sector of Ghana must be educated on the need to always have the future in mind and be encouraged to work harder and prepare adequately for retirement.

The study also finds that age negatively and significantly moderates the relationship between attitude towards retirement and retirement preparation. The interactive effect of age and attitude towards retirement is negative which implies that age dampens the positive relationship between attitude towards retirement and retirement preparation. This result is inconsistent with an earlier study by Murari *et al*., (2021). As revealed by Elahi *et al*., (2021), an individual's attitude toward engaging in behavior is defined as their positive or negative assessments of the results they anticipate from engaging in the behavior or refraining from doing so, workers in the informal sector of Ghana must be motivated to develop a positive attitude towards retirement to make them prepare adequately for retirement. Therefore, *hypothesis 9 (H9)* of the study is also supported. Meanwhile, the study also revealed that age does not moderate the relationship between future time perspective and retirement preparation; not supporting the *hypothesis 8 (8)* of the study. This implies that age doesn't strengthen or weakens the relationship between future time perspective and retirement preparation.

Conclusion

The findings of the current study present some policy implications for stakeholders in the pension and social security industry, especially the government of Ghana, retirement planners and counselors. Based on the significant positive relationship between future time perspective and retirement preparation; and attitude towards retirement and retirement preparation among the informal sector workers, it is recommended that a special awareness and education program must be instituted for the people in the informal sector for them to appreciate the need to have life at old age in mind to prepare accordingly. This awareness and education program could include the retirees from the informal sector who intentionally and adequately prepared for retirement and those who didn't prepare adequately for retirement to share their experiences. This awareness and education program should also aim at helping participants develop a more positive attitude towards retirement to make them intentionally prepare adequately for retirement. In addition, the government should institute policies that are retirement preparation favorable and friendly for this group of the workforce. People must be sensitize to start savings for retirement on time, to abstain from lifestyles that will have negative effects on their health at old and other initiatives that give them a secured satisfied life at old age. It is also recommended that retirement preparation lessons must be incorporated into the senior high school curriculum to introduce students on the need for retirement planning at an early age.

Our study is not without potential limitations. The study focused on workers in the informal sector of the Kumasi Metropolis in the Ashanti Region of Ghana who are in the urban areas and therefore generalizing the results must be done with caution. We also used only three variables to represent

psychological factors (Retirement Goal Clarity, Future Time Perspective and Attitude Towards Retirement) and only two variables (educational level and age) for demographic variables. In future studies, researchers could include informal sector workers in the rural areas. Future studies can also increase the variables for measuring both psychological factors and demographic factors to know the impact of those variables on retirement preparation.

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